

# COWABUNGA

*(Characterization of Weather Acquisition by Users – Next Generation Applications)*

The **COWABUNGA** experiment supports the Aviation Weather Information (AWIN) element of the Weather Accident Prevention (WxAP) Project, which is a part of NASA's Aviation Safety and Security Program (AvSSP). To improve the integration of weather information and present it in a manner that both supports pilots' decision requirements and is conducive to appropriate workload levels, we must better understand what weather information GA pilots' access and what combinations of weather information are useful. In particular, we need to understand how pilots allocate visual attention focus to these aviation weather information (AWIN) displays in the context of actual flight.

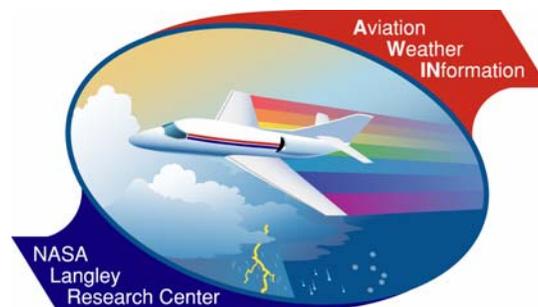


Aviation weather information requirements have been generally identified analytically or through acquiring pilots' subjective impressions.

To acquire a more objective and naturalistic characterization of weather information acquisition, we will employ an Airborne Oculometer, a device that includes headborne optics and allows us to see what pilots are looking at during a flight. GA subject pilots will wear this device while flying a typical cross-country route in NASA Langley's Cessna 206. The secondary objective of the COWABUNGA experiment is to adapt an ASL 5000 oculometer such that it is robust to the operational and ambient conditions of a GA flight environment.



Results will generate design guidance for future systems, and for the design of and practice for using oculometer systems to assess pilot information acquisition during flight testing. A follow-on experiment will use the proven methodology to assess new aviation weather information presentation and aiding concepts.



**Point of Contact**  
Dr. Kara Latorella  
Crew Systems Branch  
M/S 152 NASA Langley  
[k.a.latorella@nasa.gov](mailto:k.a.latorella@nasa.gov)